

Abstract

The present invention relates to an apparatus and a method for forming a single crystalline nitride substrate, and more particularly, to an apparatus and a method for preventing cracks from being generated in a single crystalline nitride substrate. A method for forming a compound semiconductor substrate includes the steps of: a) preparing a parent substrate; b) forming a single crystalline film on the parent substrate in a reacting chamber; c) maintaining the single crystalline film in a predetermined temperature which is higher than a room temperature; and d) illuminating laser beam on a backside of the parent substrate and separating the single crystalline film from the parent substrate. Accordingly, the present invention provides a large single crystalline nitride substrate, by preventing cracks caused by the lattice mismatch with the parent substrate.